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MARIA M. ELLSEEVA, ESQ.
BROWN RUDNICK BERLACK ISREALS, LLP
ONE FINANCIAL CENTER
BOSTON, MA 02110

EXAMINER	
KNAUSS, SCOTT A	
ART UNIT	**PAPER NUMBER**
2874	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/037,971	Applicant(s) STEINBERG ET AL.	
	Examiner Scott A Knauss	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13,15,18,19,22 and 23 is/are rejected.

7)☒ Claim(s) 14,16-18,20 and 21 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The references cited in the information disclosure statement have been considered by the examiner.

Claim Objections

2. Claims 16, 18, 21 objected to because of the following informalities. Appropriate correction is required.

Regarding claims 16 and 18 "said first silicon chip" lacks appropriate antecedent basis, as it was not previously mentioned that the chip was silicon.

Regarding claim 21 "said securement means" lacks antecedent basis, because no securement means was previously mentioned.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1,3,4,8-10 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,474,878 (Demangone).

Regarding claim 1, Demangone discloses in figs. 5-6a a fiber array half with all the limitations set forth in the claim including:

A first chip #38 having at least one groove formed in a top surface and extending longitudinally from a front face #48 to a back face #41, the chip having a bottom, the grooves receiving optical fibers.

A molded mount #72 consisting of polymer material (see col. 4, lines 42-47) having top and bottom portions, an open channel being formed through the top portion, being configured to receive the chip for mounting therein.

The chip being rigidly secured within the channel, the channel configured to provide exposure of the front and top of the chip.

Regarding claim 3, Demangone discloses that the fibers, ferrule #74 (which includes chip #38) and housing #72 are bonded together with epoxy (see col. 5, lines 29-31)

Regarding claim 4, since the mount #72 has a shape which conforms to the slanted sides of chip #38, it can be considered to be "molded" to the chip.

Regarding claim 8, the slanted sides of chip #38 can be considered to be a "re-entrant" shape, to which the mount #72 conforms, locking the chip into the channel.

Regarding claim 9, it is apparent from fig. 6, that the corners of chip #38 and mount #72 are configured to provide the "re-entrant" shape

Regarding claim 10, in figs. 5 and 6 a second chip and second mount, the second chip being rigidly secured in a channel of the second mount, the first and second chips being disposed with grooves facing each other.

Regarding claim 22, as stated above, Demangone discloses a fiber array having first and second chips, first and second molded mounts of polymer having channels in which the chips are rigidly secured such that the front face and top of the chips are exposed, the first and second array half being disposed with grooves of one facing grooves of the other.

5. Claims 1,5,10-12 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,998,796 (Bonanni et al).

Regarding claim 1, Bonanni discloses in figs. 5 and 6:

A first chip #11 having grooves formed therein from a front face toward a back face, the chip having a bottom, the grooves receiving fibers.

A mount (bottom portion in fig. 5, holder #10 in fig. 1) made of plastic (col. 3, line 4), a type of polymer, having top and bottom portions, an open channel formed in the top portion, receiving the chip for mounting, the chip being rigidly secured (via a clamp #32 for example) to provide exposure of the front and top of the chip.

Regarding claim 5 Bonanni discloses in fig. 4 the use of a clamp #32 which provides a press fit and frictional securement between the holder and chips.

Regarding claim 10 Bonanni discloses a second chip and molded mount, the chip being rigidly secured (via clamping mechanism #32) in a channel of the second molded mount with its grooves facing the grooves of the first chip.

Regarding claim 11, Bonanni discloses the use of adhesive for securing the first half to the second half (see col. 3 lines 37-40)

Regarding claim 12, Bonanni discloses the use of clamp to lock the first and second mounts with the first and second chips to cause a compressifve force against optical fibers retained therebetween (see col.3 lines 31-35, col. 1, lines 55-60)

Regarding claim 23, as set forth above, Bonanni discloses a fiber array comprised of first and second chips, first and second mounts of polymer material, the chips being secured in channels of the mounts, the molded mounts and first and second chips being locked together via a compressive device #32 to causing opposing grooves to apply a compressive force against fibers retained between (see col.3 lines 31-35, col. 1, lines 55-60).

6. Claims 1,2 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by 4,818,059 (Kakii et al).

Regarding claim 1, Kakii discloses in figs. 8 and 11b a fiber array with all the limitations set forth in the claim including:

A first chip #1 having at least one groove formed in a top surface and extending longitudinally from a front face to a back face, the chip having a bottom, the grooves receiving optical fibers.

A molded mount #41,#6 consisting of plastic (a polymer material) (see col. 6, lines 37-38) having top and bottom portions, an open channel being formed through the top portion, being configured to receive the chip for mounting therein.

The chip being rigidly secured within the channel, the channel configured to provide exposure of the front and top of the chip.

Regarding claim 2, in fig. 11b it is shown that the channel is longer than the chip, providing a recessed area behind the chip.

Regarding claim 19, in figs. 10a and 10b disclose the use of a rubber boot #13 serving as a strain relief assembly extending from the back portion of the molded mount.

7. Claims 1,6,10,12,15 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,574,817 (Henson et al).

Regarding claim 1, Henson discloses in figs. 8-10 a fiber array half with all the limitations set forth in the claim including:

A first chip (unshaded bottom part #23) having at least one groove #88 formed in a top surface and extending longitudinally from a front face to a back face, the chip having a bottom, the grooves receiving optical fibers #30.

A molded mount (shaded part #23) consisting of polymer material (see col. 5, lines 19-24, where it is stated that the connector assembly may have a plastic (polymer) body having a ceramic or metal insert corresponding to the portion of connector assembly #22 (i.e. the unshaded parts) which interfaces with fibers #30)

The mount having top and bottom portions, an open channel being formed through the top portion, being configured to receive the chip for mounting therein.

The chip being rigidly secured within the channel, the channel configured to provide exposure of the front and top of the chip.

Regarding claim 6, the top surface of the chip is lying in the same plane as the top portion of the mount.

Regarding claim 10, Henson discloses a second chip and second mount facing each other such that the grooves face each other.

Regarding claim 12, Henson discloses the use of means #100,#102 for assisting in the alignment and compression of the connector components (#23,#24) and locking the components together (see col. 8, lines 15-24)

Regarding claim 15, Henson discloses the use of ultrasonic welding to secure components #23-#24, thus forming a welded joint in the polymer material of #23,#24 to lock the two halves together.

Regarding claim 24, Henson, as stated above, discloses first and second chips, and first and second mounts of polymer, the chips being rigidly secured in channels of the mounts, the mounts being locked together via mating features #100,#102 to cause opposing grooves to apply a compressive force against fibers retained therebetween.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Demangone.

Regarding claim 7, Demangone disclose the use of polymer material, but does not specify the use of noncrystalline material.

Nevertheless, Demangone also states that any suitable material can be used (col. 4, lines 46-47), and since noncrystalline materials are known in the art, it would have been obvious to one of ordinary skill in the art to select known materials to form the housing of Demangone, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henson.

Regarding claim 13, Henson discloses the use of mating details #100, #102 to lock the two mounts together. However, Henson does not explicitly state the use of a locking pawl protruding away from the top portion of like ends of the first and second mounts, and a keyway formed into the top portion of opposite like ends of each of the first and second mounts, the pawls and keyways interlocking with each other to retain the mounts together.

However, in col. 8, lines 22-23 Henson does state that a mechanical latching mechanism can be used to join the two halves #23,#24 of the connector. Since locking pawls and keyways are a well known mechanical latching mechanism, one of ordinary skill in the art would have been motivated to replace the mating details #100,#102 with a pawl and keyway system in order to mechanically latch the two parts together so that they are not easily taken apart.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kakii. Kakii discloses in figs. 8-12 the use of a chip #1, which may be silicon (see col. 5, lines 65-68) and extends from the front portion of the mount, but does not disclose whether the chip can extend from the mount for up to 100 micrometers.

Nevertheless, since there is no stated criticality for such an extension distance, it would have been a mere matter of design choice to one of ordinary skill in the art to adjust the amount by which chip #1 extends to any desired distance.

Allowable Subject Matter

13. Claims 14,16,17,20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and to overcome the objections set forth above.

Regarding claim 14, the prior art fails to teach or suggest the use a second mount having first and second L-shaped notches cut into its right and left side portions, such that first and second lockings pawls lock into the notches.

Regarding claim 16, the prior art fails to suggest the first chip having a transverse slotway in a bottom face, the first mount being formed with a stepped portion which mates with the transverse slotway.

Regarding claim 17, prior art further fails to suggest vertical grooves formed at opposite ends of the front portion of the first mount, for providing control over the wicking of glue and enhancing the bonding of glue.

Regarding claims 20 and 21, the prior art fails to teach or suggest an open notch formed in the top portion of the molded mount from the channel through one side portion thereof to receive strengthening fibers of an associated optical fiber cable.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,257,334, 5,815,621 as well as JP 6-27343, 4-43308, 8-54519,3-61916 and 10-48477 disclose various connectors having chips held in a channel of a mount.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Knauss whose telephone number is (703) 305-5043. The examiner can normally be reached on 9-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308 - 4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Scott Knauss Art Unit 2874

sak

HEMANG SANGHAVI
PRIMARY EXAMINER